WHAT IS CLAIMED IS:

1. A diathermic snare used in combination with an endoscope, the endoscope including an inserting section which is inserted into a body cavity and which has a distal end and a proximal end, and a cylindrical cap section mounted on the distal end of the inserting section, the cap section having a distal end, a proximal end and an engagement projection having a bending portion that bends inward at the distal end of the cap section,

wherein the diathermic snare comprises:

an elongated flexible sheath having a distal end and a proximal end;

an operating wire inserted into the sheath so as to move forward and backward and having a distal end and a proximal end;

a snare wire coupled to the distal end of the operating wire and having a loop section which expands like a loop;

an operating section coupled to the proximal end of the sheath and including a guide member extending in an axial direction of the sheath and a slider which moves forward and backward in the axial direction of the sheath along the guide member and which is coupled to the proximal end of the operating wire; the loop section of the snare wire projecting from the distal end of the sheath, the snare wire expanding like a

loop, and the loop section expanding along an inner circumference of the engagement projection when the slider moves toward along the guide member; and the loop section being stored in the sheath when the slider moves backward along the guide member; and

a bending portion provided at the distal end of the loop section, the bending portion ending in a direction that intersects a plane formed by the loop section and conforming to a corner of the bending portion of the engagement projection when the loop section expands along the inner circumference of the projection.

2. A medical instrument system using a diathermic snare and an endoscope in combination with each other, the endoscope including an inserting section which is inserted into a body cavity and which has a distal end and a proximal end, and a cylindrical cap section mounted on the distal end of the inserting section, the cap section having a distal end, a proximal end and an engagement projection having a bending portion that bends inward at the distal end of the cap section,

wherein the medical instrument system comprises:

an elongated flexible sheath having a distal end and a proximal end;

an operating wire inserted into the sheath so as to move forward and backward and having a distal end and a proximal end;

a snare wire coupled to the distal end of the operating wire and having a loop section which expands like a loop;

an operating section coupled to the proximal end of the sheath and including a guide member extending in an axial direction of the sheath and a slider which moves forward and backward in the axial direction of the sheath along the guide member and which is coupled to the proximal end of the operating wire; the loop section of the snare wire projecting from the distal end of the sheath, the snare wire expanding like a loop, and the loop section expanding along an inner circumference of the engagement projection when the slider moves toward along the guide member; and the loop section being stored in the sheath when the slider moves backward along the guide member; and

a bending portion provided at the distal end of the loop section, the bending portion bending in a direction that intersects a plane formed by the loop section and conforming to a corner of the bending portion of the engagement projection when the loop section expands along the inner circumference of the projection.

3. The medical instrument system according to claim 2, wherein the cap section has a main body that is made of transparent materials.

4. The medical instrument system according to

claim 2, wherein the engagement projection has a flange-shaped engagement projection that projects toward an inner surface of the cap section in proximity to a leading edge of the cap section.

5. The medical instrument system according to claim 2, wherein:

the cap section has a fixing section at the proximal end thereof, the fixing section being fixed to a distal end of the endoscope; and

the medical instrument system further comprises a soft tube having an open distal end and an open proximal end, the soft tube being arranged alongside the inserting section of the endoscope when the fixing section is fixed to the distal end of the endoscope, and the open distal end communicating with an inside of the cap section.

6. The medical instrument system according to claim 2, wherein the bending portion of the loop section bends at a bend angle which is almost perpendicular to the plane formed by the loop section.

7. The medical instrument system according to claim 2, wherein the bending portion of the loop section bends at an acute bend angle corresponding to an acute angle to the plane formed by the loop section.

8. The medical instrument system according to claim 2, wherein:

the cap section has an inclined plane

corresponding to a plane of the distal end of the cap section which is inclined to the axial direction of the sheath; and

the bending portion of the loop section bends in the axial direction of the sheath.

9. The medical instrument system according to claim 8, wherein the plane formed by the loop section has an inclination angle that is set such that the plane is almost parallel to the inclined plane of the cap section.

10. The medical instrument system according to claim 8, wherein:

the inclined plane of the cap section inclines at an acute angle in the axial direction of the sheath; and

the bending portion of the loop section bends at a bend angle that is equal to an inclination angle of the inclined plane.

11. The medical instrument system according to claim 2, wherein the loop section has a diameter that is equal to an inside diameter of the cap section.

12. The medical instrument system according to claim 2, wherein the loop section rotates around an axis of the sheath.

13. A method of assembling a medical instrument system using a diathermic snare and an endoscope in combination with each other,

the endoscope including an elongated inserting section which is inserted into a body cavity and which has a distal end and a proximal end, and a cylindrical cap section mounted on the distal end of the inserting section,

the cap section having a distal end, a proximal end, an engagement projection having a bending portion that bends inward at the distal end of the cap section, a fixing section provided at the proximal end of the cap section and fixed to a distal end of the endoscope, and a soft tube having an open distal end and an open proximal end, the soft tube being arranged alongside the inserting section of the endoscope when the fixing section is fixed to the distal end of the endoscope, and the open distal end communicating with an inside of the cap section,

the diathermic snare including an elongated flexible sheath having a distal end and a proximal end, an operating wire inserted into the sheath so as to move forward and backward and having a distal end and a proximal end, a snare wire coupled to the distal end of the operating wire and having a loop section which expands like a loop, an operating section coupled to the proximal end of the sheath and including a guide member extending in an axial direction of the sheath and a slider which moves forward and backward in the axial direction of the sheath along the guide member

and which is coupled to the proximal end of the operating wire, the loop section of the snare wire projecting from the distal end of the sheath, the snare wire expanding like a loop, and the loop section expanding along an inner circumference of the engagement projection when the slider moves toward along the guide member, and the loop section being stored in the sheath when the slider moves backward along the guide member, and a bending portion provided at the distal end of the loop section, the bending portion bending in a direction that intersects a plane formed by the loop section and conforming to a corner of the bending portion of the engagement projection when the loop section expands along the inner circumference of the projection, and

the plane formed by the loop section inclining in the axial direction of the sheath and the loop section rotating around an axis of the sheath,

comprising:

a diathermic snare inserting step of mounting the cap section on the endoscope, then inserting the diathermic snare into the tube, and projecting the distal end of the sheath forward from the cap section;

a loop section projecting step of projecting the loop section from the sheath while the distal end of the sheath is projected from the cap section;

a loop section direction adjusting step of

rotating the loop section around an axis of the sheath when necessary and adjusting a direction of the loop section;

a retracting step of retracting the loop section into the cap section;

a cap section pressing step of pressing a leading edge of the cap section against an object; and

a loop section setting step of pushing the sheath to bring the loop section into intimate contact with the engagement projection and expanding the loop section circularly along the engagement projection.